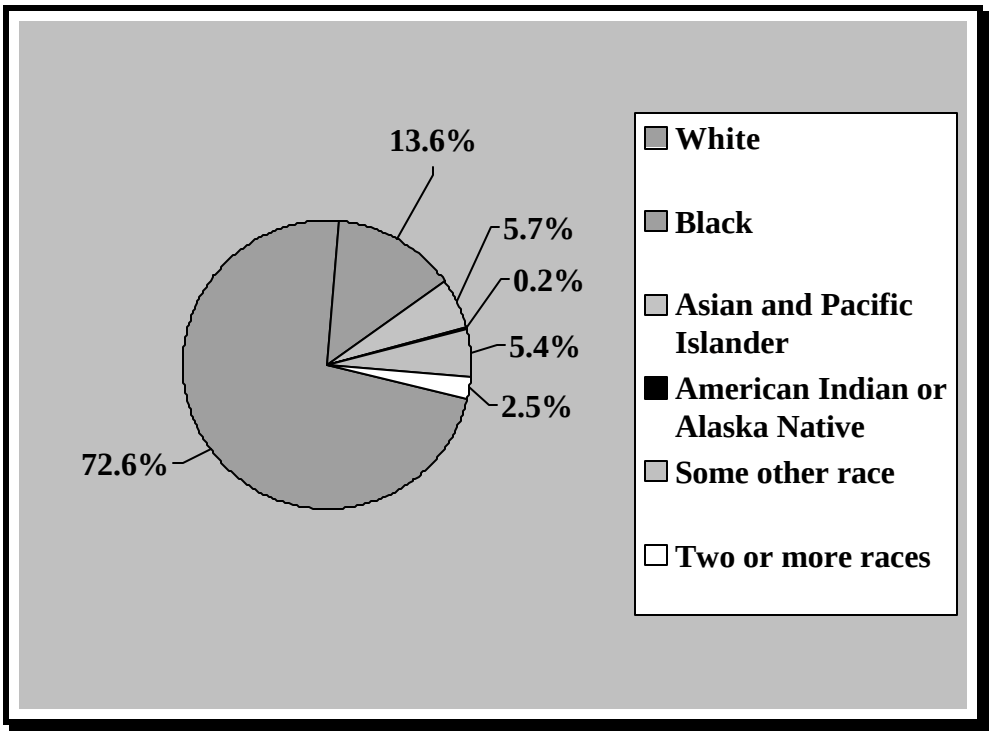
The Burden of Cancer in New Jersey

A DEMOGRAPHIC PICTURE OF NEW JERSEY

New Jersey is a geographically small, but heavily populated state. The state's population of over 8.4 million is the ninth highest in the nation. According to the 2000 Census, New Jersey is the most densely populated state, with 1,134 persons per square mile.

Figure 1 demonstrates the racial composition of New Jersey. According to the 2000 Census, though still a majority, the white population in New Jersey is decreasing, while populations for all other races are increasing. Approximately 13.3% of the population were Hispanic of any race, which accounts for 55.4% of New Jersey's total population growth from 1990 through 2000.

Figure 1: Breakdown of New Jersey population by Race, Based on 2000 Census



The 2000 Census also revealed that New Jersey's population is also older than the national average, with a median age of 36.7 years as compared to 35.3 years for the nation. The percentage of the population aged 65 and older is 13.3% in New Jersey and 12.4% in the nation as a whole. Similar to the national trend, the oldest age group (85 years and over) is growing at the fastest rate, growing by 43.1% in New Jersey and 38.1% in the nation from 1990 to 1999 (1).

The 2000 Census demonstrated that New Jersey ranks first in the nation for median household income ($54,149). It follows, then, that the percentage of New Jersey's population living in poverty is much lower than in the nation as a whole. According to a 1997 model-based estimate, 9.3% of New Jerseyans had income below the poverty level, compared to 13.3% nationally.

Additionally, adult New Jerseyans exceed national estimates of average educational attainment. For persons 25 years and over, in 1999, 87.4% of state residents 25 and over had completed high school, compared to 83.4% nationally, and 30.5% had completed a bachelor's degree or more compared to 25.2% nationally (2).

CANCER INCIDENCE IN NEW JERSEY

In 2000*, the data reported to the New Jersey State Cancer Registry (NJSCR) indicate that 42,525 cases of invasive cancer were diagnosed among New Jersey residents. Males (all races combined) had a rate of 591.4 per 100,000** compared to females (all races combined) who had a rate of 445.2 per 100,000** (Figure 2). The American Cancer Society predicts that in 2002, the incidence rates will be 513.4 per 100,000 males and 377.3 per 100,000 females (3). Since 1995, more cancers are being diagnosed in the early stages (in situ and local); however, this number is only 50% (Figure 3). In the paragraphs below, the most striking patterns from the New Jersey State Cancer Registry statistics for age, race, and gender are highlighted, taking into account fluctuations and trends in incidence data for years prior to 1995. Incidence data for years prior to 1995 can be viewed on the New Jersey Department of Health and Senior Services (NJDHSS) website, www.state.nj.us/health, and can also be found in previously issued New Jersey State Cancer Registry cancer incidence reports.

Males. Data from the New Jersey State Cancer Registry (NJSCR) demonstrate that the overall cancer incidence rate for New Jersey males increased through 1992 and then began to decline. While white males mirrored the overall trend for New Jersey males, black males have seen a continuous decline since 1995. Lung cancer incidence rates (all races combined) were stable from 1994 through 1998 and then a decrease was seen in 1999 and 2000*. The same trend is seen in black and white males diagnosed with lung cancer, although the incidence rates are slightly higher among black males in New Jersey. Overall, New Jersey prostate cancer rates (all races combined) were 184.8 per 100,000** in 1995 compared to 192.2 per 100,000 in 2000*. Malignant melanoma of the skin increased from 16.2 per 100,000** in 1995 to 21.6 per 100,000** in 1997 and decreased to 18.5 per 100,000 in 2000*.

In New Jersey males, cancer incidence increases with age. Men in the 80-84 age group have the highest incidence rate of cancer. White males mimic this trend, while black males have the highest cancer incidence rates in their 70-74 and 75-79 age groups.

In 2000*, 50% of the new cancer cases in New Jersey males were diagnosed in the early stages (in situ and local), which is an increase from 42% in 1995. Cancers are being diagnosed earlier among white men in New Jersey than black men.

---

*Incidence rates for the year 2000 data from the New Jersey State Cancer Registry are preliminary.
**Rates are per 100,000 and age-adjusted to the 2000 U.S. (5-year groups) standard.

Females. Data from the New Jersey State Cancer Registry (NJSCR) demonstrate that during the years 1995 through 2000*, the overall cancer incidence rate for New Jersey females increased gradually through 1998 and then began to decline. The incidence rates for both white and black females in New Jersey mimic the trends seen in overall cancer incidence rates. Incidence rates of lung cancer appear stable during the years 1995 to 2000* for all races combined. Declines continued to be seen for invasive cervical cancer especially among black women. Invasive breast cancer incidence rates rose slightly through 1997, and then began decreasing. Incidence rates for malignant melanoma of the skin were 12.0 per 100,000** in 2000*, compared to 10.2 per 100,000** in 1995.

Similar to New Jersey males, the incidence rates for New Jersey females increase with age. Women in the 80-84 age group have the highest incidence rate of cancer.

In 2000*, 48.5% of the new cancer cases in New Jersey females were diagnosed in the early stages (in situ and local), which is an increase from 44% in 1995. Cancers are being diagnosed earlier in white women in New Jersey than black women.

NEW JERSEY COMPARED TO THE NATION, 1995-1999

Historically, New Jersey rates have been representative of the Northeast region, which tends to have higher cancer incidence rates than the U.S. as a whole (Figure 2).

For males all races combined, total cancer incidence rates were higher in New Jersey than the U.S. during the period 1979 to 1999. During the same time period, the incidence rates for colorectal and prostate cancers were higher for New Jersey men than for U.S. men. Melanoma incidence rates for the U.S. and New Jersey were similar. Since 1995 the incidence rate for both white and black males in New Jersey is higher than the national incidence rates.

For females, New Jersey had higher incidence rates than the U.S. during the period 1979 through 1999 for total cancers and colorectal cancer. New Jersey's females had higher breast cancer rates than the U.S., although the rates in 98-99 are more similar. Melanoma incidence rates for New Jersey females were lower than U.S. females. Incidence rates among white females in New Jersey have consistently been higher than the U.S. incidence rates for females. Black women in New Jersey have similar incidence rates when compared to U.S. black women.

*Incidence rates for the year 2000 data from the New Jersey State Cancer Registry are preliminary.
**Rates are per 100,000 and age-adjusted to the 2000 U.S. (5-year groups) standard.

CANCER AMONG OLDER ADULTS IN NEW JERSEY, 1994-1998

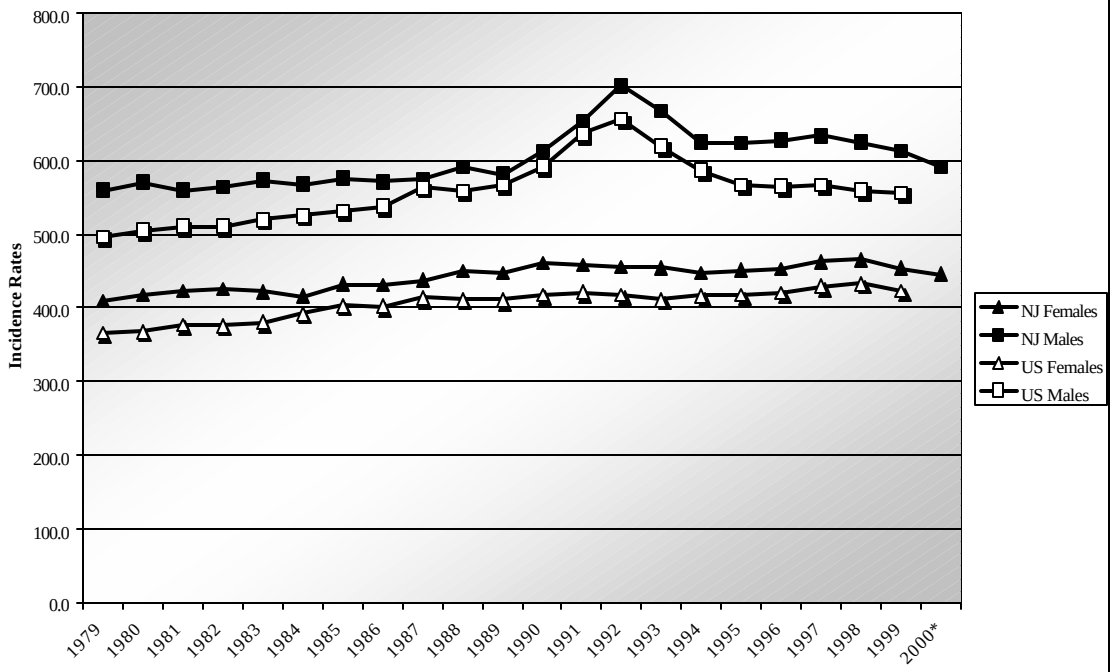
Currently, in New Jersey, about 13.2% or 1.1 million people are aged 65 and older. In New Jersey and nationally, over one-half of all newly diagnosed cancers occur in adults aged 65 and older. In New Jersey alone, 64% of men and 58% of women who are newly diagnosed with cancer are aged 65 and older and, therefore, this age group bears the greatest burden of cancer (4).

In New Jersey, both incidence and mortality rates for total cancer have been higher for each successive age group. In recent years, incidence rates in the oldest old (age 85 and older) have converged toward the older old (age 75 to 84 years) for both men and women. Incidence and mortality rates vary greatly by gender among older adults. Incidence rates for older men are higher than rates for older women, especially for men aged 75 and older. Mortality rates for older men are also higher than rates for older women and share a similar pattern over time.

Among older adults in New Jersey, favorable patterns for stage at diagnosis are seen for female breast cancer, prostate cancer, and melanoma of the skin, which may be the result of effective screening. Less favorable patterns for stage at diagnosis are seen for cervical, colorectal, and/or pharyngeal cancers. Better screening efforts among older adults and their physicians may increase the detection of these cancers at an earlier stage.

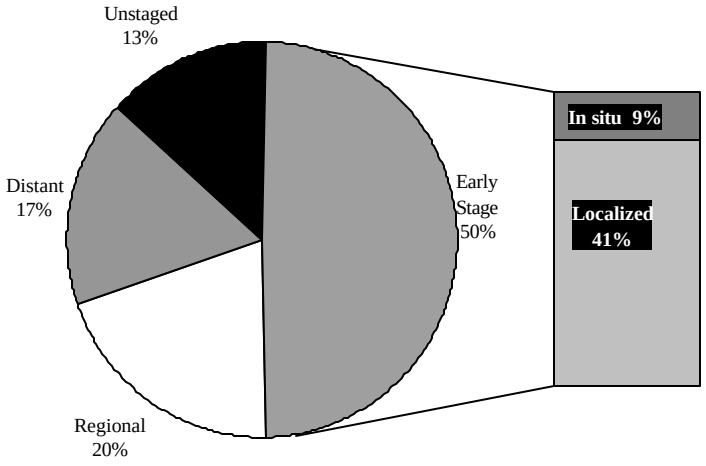
With the rising number and proportion of older adults with cancer in New Jersey over the coming decades, attention should be given to interventions that will decrease the burden of cancer among adults aged 65 and older. Opportunities abound for research to understand the issues of early diagnosis, treatment, and support of older adults with cancer. It appears that chronological age by itself is less a factor in determining patient outcomes than other related factors such as functional status, co-morbidities, and overall health status. Because of the heterogeneity in health and economic status of our aging population, comprehensive assessments and individualized management may be of significant value in improving survival of and quality of life in older adults with cancer.

Figure 2: U.S. and New Jersey Age-Adjusted Incidence Rates, All Cancer Sites, 1979-2000*



Source: New Jersey State Cancer Registry (NJSCR) and SEER; Rates are per 100,000 and age-adjusted to the 2000 US standard.
*Incidence rates for the year 2000 data from the NJSCR are preliminary; 2000 data are not available from SEER.

Figure 3: Stage of Diagnosis for New Cancer Cases in New Jersey Males and Females, 2000*



Source: NJSCR; *Incidence rates for the year 2000 data from the NJSCR are preliminary.

SURVIVAL AFTER CANCER IS DIAGNOSED

Cancer is the second leading cause of death in New Jersey. According to data from the National Center for Health Statistics, cancer mortality rates in New Jersey have been declining since 1991, and the decline has been more rapid since 1995. There were 18,177 deaths in 1999 for which cancer was designated on the death certificates as the underlying cause. The mortality rate for New Jersey was 256.0 per 100,000** for males (all races combined) and 181.5 per 100,000** for females (all races combined) in 1999.

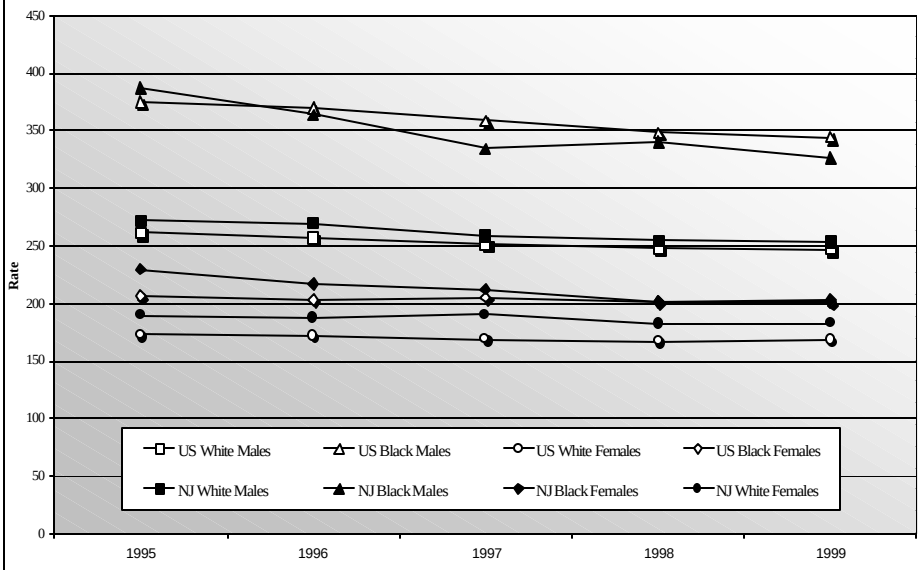
New Jersey cancer mortality rates for males (all races combined) and white males are slightly higher than the rates for the U.S.; however the mortality rates for black males in New Jersey fell lower than the rate for the U.S. in 1996 through 1999. New Jersey cancer mortality rates for females (all races combined) and white females were higher than the mortality rates for the U.S. Although mortality rates for black females in New Jersey were higher than the U.S. rates, in recent years the rates have become similar (Figure 4).

Although life expectancy in the United States has been increasing, blacks live shorter lives than whites. This earlier mortality tends to hold across gender, age, and disease subgroups (5). Potential explanations for this disparity fall into two broad categories: environmental/ societal/behavioral (which are potentially subject to intervention) and biological/genetic. The latter factors, some of which may vary among different ethnic/racial groups, was long considered immutable. However, given the evolving genetic knowledge, the genome holds the promise that, if used ethically, it may facilitate improved screening, earlier diagnosis and intervention, and the tailoring of specific therapies to improve prognosis.

Strategies addressing specific basic research are not addressed in the *Plan;* however, the respective chapters propose ways to nurture and increase support for these efforts. New Jersey is rich in its resources for basic research through the biopharmaceutical industry, academic centers of excellence, innovative research institutes, and the work of the New Jersey Commission on Cancer Research. It is through the efforts of these dedicated scientists in our state that new approaches and therapies are realized which pave the way to understanding how cells and organisms function normally and what goes wrong in the development of cancer.

**Rates are per 100,000 and age-adjusted to the 2000 U.S. population standard.

Figure 4: Mortality Rates for the U.S. and New Jersey by Gender and Race, 1995-1999



Source: National Center for Health Statistics; Rates are per 100,000 and age-adjusted to the 2000 US (5-year groups) standard.

REDUCING THE CANCER BURDEN

The goal of cancer control and of this *Plan* is to reduce the burden of cancer for all New Jersey residents. Many types or forms of cancer can be prevented. It is incumbent to provide New Jerseyans with the information they need to avoid risky behaviors that increase their chances of developing cancer. Other cancers can be detected early and ameliorated, controlled, or cured. Data about these kinds of cancer and the potential to survive them once detected must be disseminated broadly. Access to high-quality cancer screening and state-of-the-art treatment must be available. Finally, even for cancers for which a cure has not been found, there are certain life-prolonging, life-enhancing, and palliative care measures including pain control to which New Jersey's residents deserve access. These are the aims of this *Comprehensive Cancer Control Plan* and will, once achieved, reduce the burden of cancer in New Jersey.

References

(1) Wu SY. New Jersey Economic Indicators. Trenton, NJ: New Jersey Department of Labor (DOL), Division of Labor and Demographic Research, 2000.

(2) New Jersey Department of Health and Senior Services. Healthy New Jersey 2010: A Health Agenda for the First Decade of the New Millenium. Trenton, NJ: New Jersey Department of Health and Senior Services, 2001.

(3) American Cancer Society. Cancer Facts & Figures. Atlanta, GA: American Cancer Society, Inc., 2002.

(4) Burger SS, Agovino P, Weinstein R, Klotz JB, Abe T, Van Loon S et al. Cancer among older adults in New Jersey, 1994-1998. Trenton, NJ: Cancer Epidemiology Services, New Jersey Department of Health and Senior Services, 2002.

(5) Kiefe CI. Race/ethnicity and cancer survival: the elusive target of biological differences. JAMA 2002; 287(16):2138-2139.

.